PFAS ACTIVITIES – CROSS-STATE MIGRATION IN GEORGIA AND ALABAMA

OBJECTIVE

Approval to release the final Chattooga study report to Georgia and Alabama.

TALKING POINTS

- Since the issuance of the PFOA/PFOS Health Advisory (HA), the EPA has remained closely engaged with the Alabama Department of Environmental Management (ADEM) and the Alabama Department of Public Health (ADPH) to discuss drinking water system monitoring results, assist with public notification efforts, and to identify options for reducing PFAS levels in finished water for Centre and Gadsden public water systems (PWS).
- Since 2012, the EPA has also coordinated closely with ADEM and the Georgia Environmental Protection Department (GA EPD) to design three studies, provide analytical support and sample rivers and lakes that are the sources for the drinking water systems that exceeded the HA levels.
- In 2019, the EPA executed three additional studies which prioritized PFAS inputs into the relevant surface water bodies and sediments impacting the Centre and Gadsden water system intakes.
    - In November 2019, the Chattooga Study measured combined PFOA and PFOS levels at 95ppt in surface water near the Racoon Creek intake. Follow-up samples indicated a result of 98 ppt in drinking water.
    - In past reports that we've released to the states, we have found concentrations of numerous PFAS compounds as high as PFBS (7600ppt) in surface water.
- Georgia is in direct communication with Summerville Public Works and Utilities to notify the public and identify treatment solutions. Releasing the Chattooga Study will help their decision making.

BACKGROUND

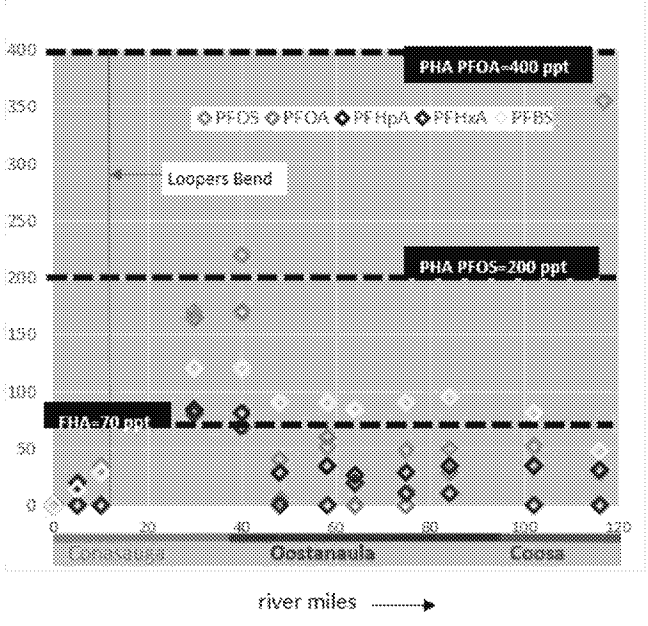
- Since 2016, two PWSs in Alabama, the City of Gadsden and the City of Centre, have monitored their water on a biweekly basis. The highest concentration detected was 130 ppt of combined PFOA and PFOS, which exceeded EPA's Health Advisory (HA) level of 70 ppt.
- Weiss Lake is the source water body for the public water intakes for Centre and Gadsden water systems. The Coosa and Chattooga Rivers, which have headwaters in Georgia, are the two main tributaries to Weiss Lake. The Conasauga River flows into the Oostanaula River, which flows into the Coosa River, a main tributary to Weiss Lake.
- In the Coosa River watershed, Dalton Utilities land applies wastewater from their treatment plant and a county landfill, which includes discharges from carpet/textile manufacturers, to a 10,000-acre sprayfield that is located on Looper's Bend. The Loopers Bend land application site (LAS) is adjacent to the Conasauga River.

- The EPA worked with the GA EPD and Dalton Utilities to connect GA residents, with private well PFAS levels exceeding the PFOA and PFOS Health Advisory, to a municipal water source.

The EPA has actively worked with Georgia and Alabama, Region 4 laboratory and Office of Research and Development to gain insight into PFAS inputs into Weiss Lake under several sampling investigations, which are outlined below:

- Coosa River (2012) – After independent studies by the United Steelworkers Union reported elevated PFAS levels, the EPA designed a study to analyze PFAS concentrations upstream, downstream and onsite of the Loopers Bend LAS with results showing a notable input to the Coosa River originating near the Loopers Bend LAS.
- Coosa River (2016) – After UCMR3 data was released, the EPA designed a follow-up measuring PFAS levels originating near the Loopers Bend LAS relative to the Lifetime Health Advisory. Both studies showed elevated PFAS levels near Looper Bend, downstream of Loopers Bend and diluting downstream at the confluences of the Oostanaula and Coosa Rivers.

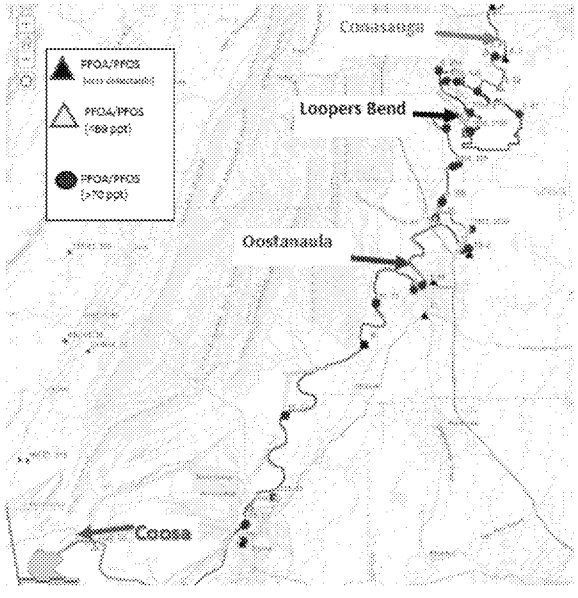
Loopers Bend: PFAS Input to downstream surface water bodies



This graph shows river miles on the X axis and PFAS concentrations (ppt) on the Y axis.

Loopers Bend is a 10,000-acre land application site located at mile-marker 12 on the Conasauga (in the above map). The concentrations of several PFAS constituents spike after Loopers Bend. As the flow continues downstream, PFAS concentrations are diluted at confluences near the Oostanaula and Coosa Rivers.

2012 and 2016 Coosa River Studies

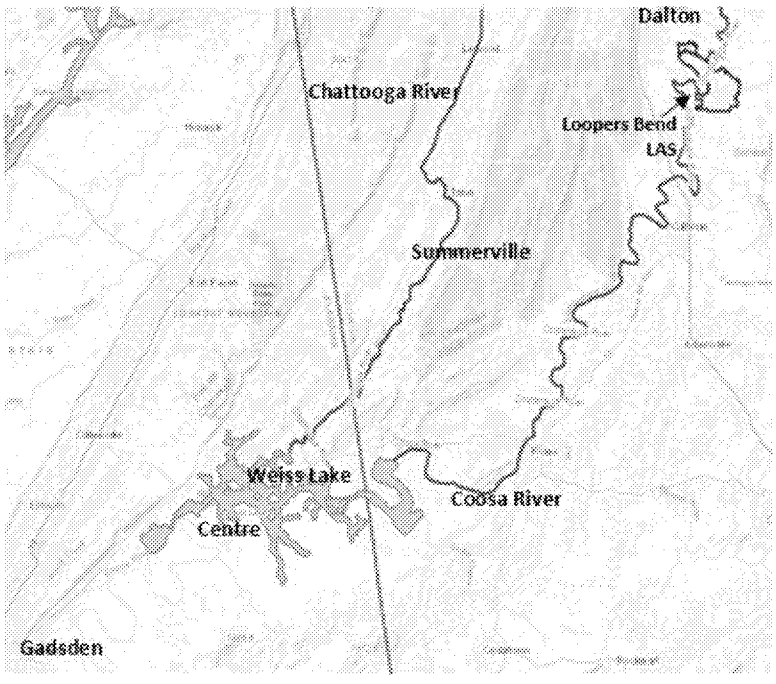


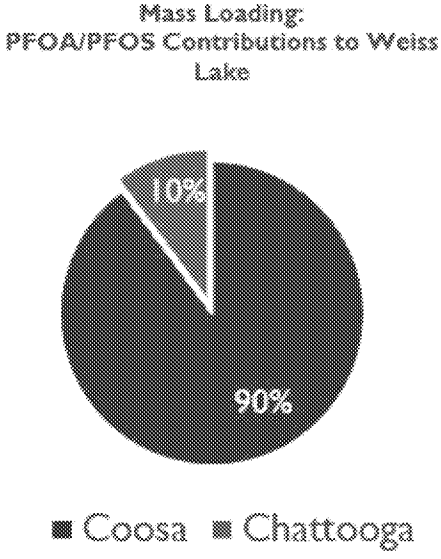
Based on the Coosa River studies (2012 and 2016), this map shows elevated PFAS concentrations near and downstream of the Loopers Bend.

The map shows the majority of the PFAS concentrations above 70 ppt begin around the Loopers Bend and have an influence on the downstream Oostanaula and Coosa Rivers.

Note: Conasauga, **Oostanaula** and Coosa Rivers have the same color on each graphic for continuity.

- Chattooga River (2018) – After discussion with Georgia about biosolids fields in the Chattooga watershed, the EPA designed a study that provided information regarding PFAS inputs from local biosolids fields. Elevated PFAS levels were found near the Trion and Summerville areas.
- Mass Loading and prioritization of Weiss Lake Tributaries (2019): In an effort to prioritize the contributions of all tributaries, this study collected mass loading information of 17 inflowing tributaries to Weiss Lake. The results estimated that the Coosa River provides 90% of the PFOA and PFOS input to Weiss Lake, followed by a 10% contribution from the Chattooga River and negligible input from the other 15 tributaries.

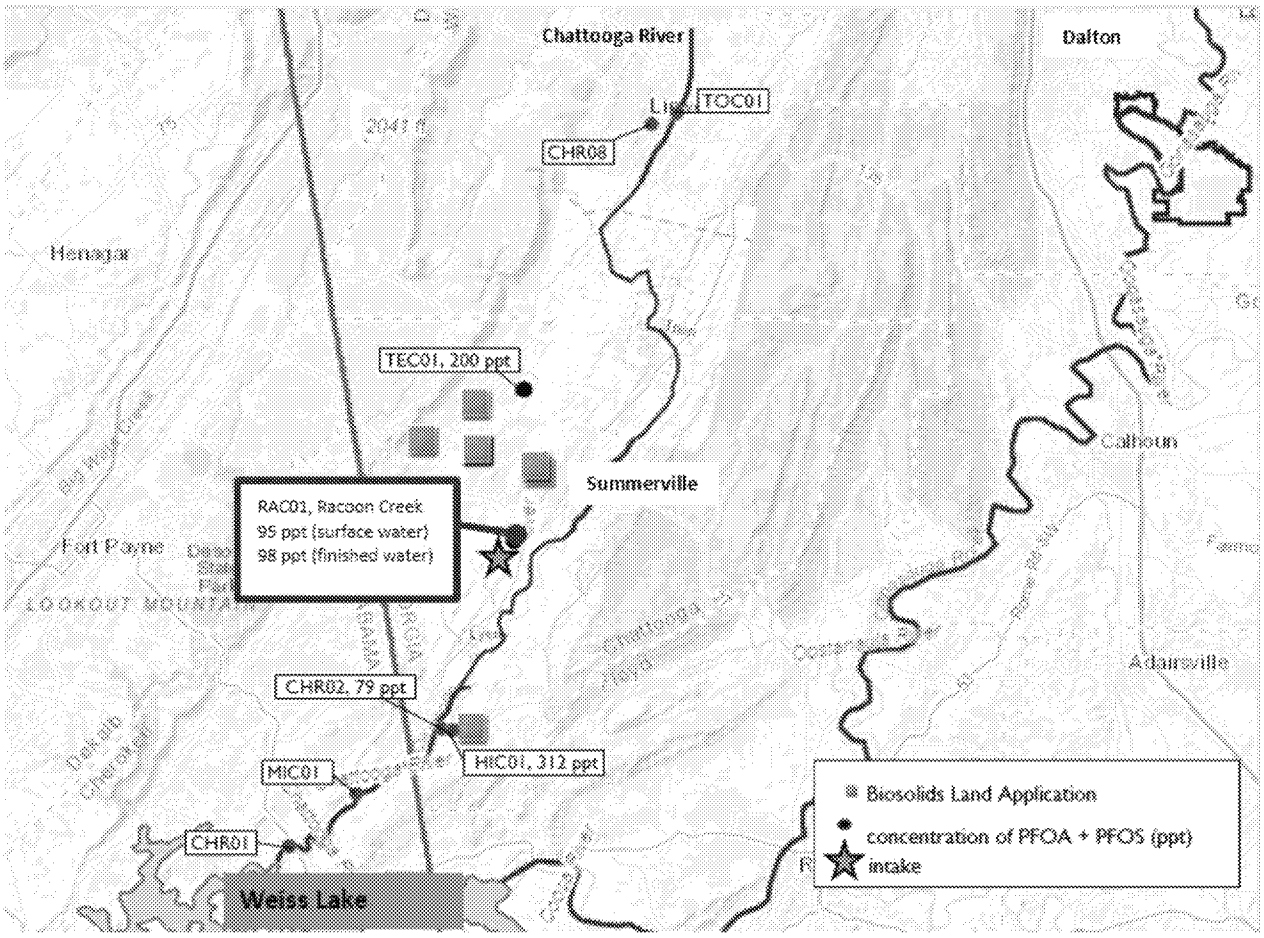




In 2019, a study analyzed 17 inflowing tributaries to Weiss Lake. The results estimated that the Coosa River provides 90% of the PFOA and PFOS input to Weiss Lake, followed by a 10% contribution from the Chattooga River, and negligible input from the other 15 tributaries.

- Coosa River (2019): This study measured PFAS contributions from surface water and sediments, with results were similar to the previous Coosa River studies (2012 and 2016).
- Chattooga River (2019) – This study measured PFAS contributions from surface water and sediments.
    - In the Chattooga River study (November 2019), one of the samples, RAC01, located near the Racoon Creek intake reported a combined PFOA and PFOS

concentration of 95 ppt. A confirmatory sample indicated that the finished water sample 98 ppt combined PFOA and PFOS.



This map shows the location of seven samples collected near Biosolids Land Application sites. One of the samples, RAC01, was collected near the Racoon Creek intake for Summerville Public Works and Utilities with results of combined PFOA and PFOS at 95 ppt in surface water (November 2019) and 98 ppt in finished water (January 2020).

LAWSUITS

- Centre and Gadsden (AL) and Rome (GA) water systems have pending lawsuits against multiple Dalton-area businesses, including carpet manufacturers, known to use PFAS compounds alleging contribution to the downstream contamination near the intakes of their systems.

CURRENT STATUS

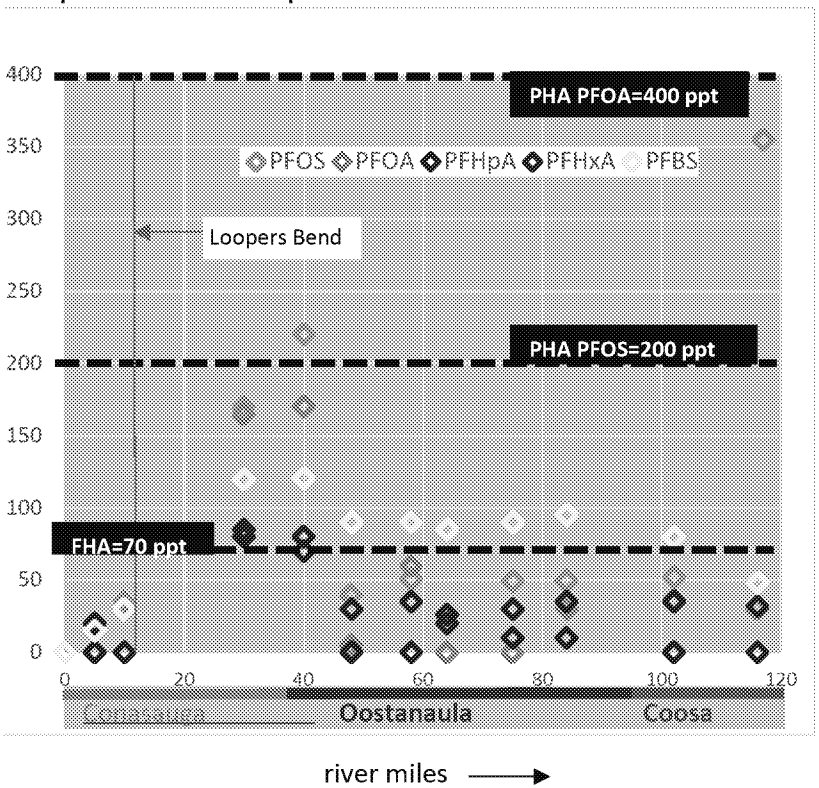
- Gadsden Waterworks & Sewer Board – Installed their GAC treatment in December 2018. Their current treatment has been effective in reducing combined levels of PFOA and PFOS in finished water from 120 ppt down to 30ppt.

- Centre Water & Sewer System – Plans to complete their GAC treatment installation by November 2020. Similar to the Gadsden water system, Centre has had combined levels of PFOA and PFOS as high as 130 ppt; however, the most recent analytical results show levels near 77 ppt (December 2019).
- Summerville Public Works & Utilities – Georgia has notified the system of the elevated PFOA and PFOS levels in their intake and finished water samples. Currently, Georgia is working with the system to develop treatment alternatives. Releasing the Chattooga Study will help their decision making.

PROGRAM CONTACTS

Jeaneanne Gettle, Region 4 Water Division Director, 404-562-8979
Becky Allenbach, Region 4 Water Division Deputy, 404-562-9687
Brian Smith, Region 4 Safe Drinking Water Branch Chief, 404-562-9845
Shawneille Campbell-Dunbar, Region 4 Drinking Water Section Chief, 404-562-9324
Renea Hall, Region 4 Drinking Water Section PFAS Staff Lead, 404-562-8397

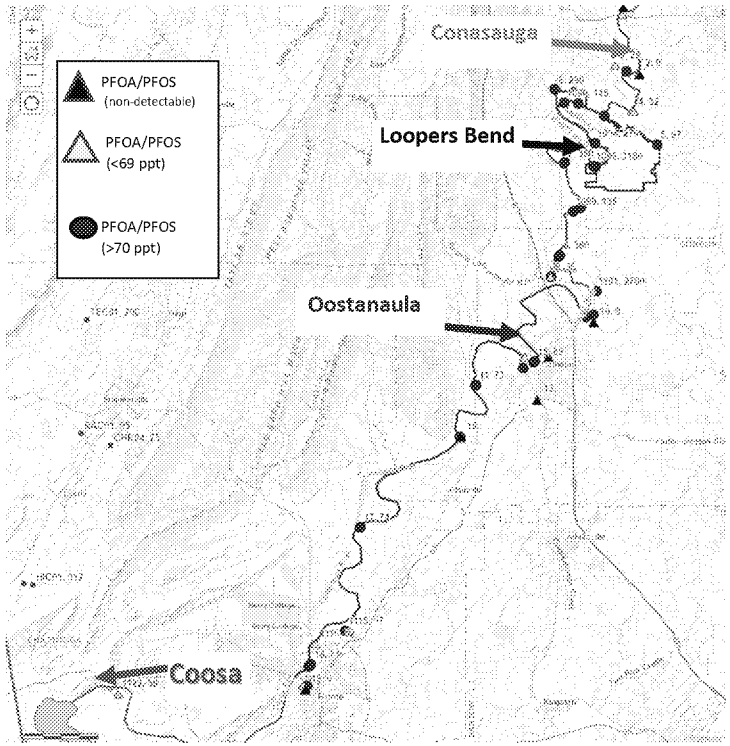
Loopers Bend: PFAS Input to downstream surface water bodies



This graph shows river miles on the X axis and PFAS concentrations (ppt) on the Y axis.

Loopers Bend is a 10,000-acre land application site located at mile-marker 12 on the Conasauga (in the above map). The concentrations of several PFAS constituents spike after Loopers Bend. As the flow continues downstream, PFAS concentrations are diluted at confluences near the Oostanaula and Coosa Rivers.

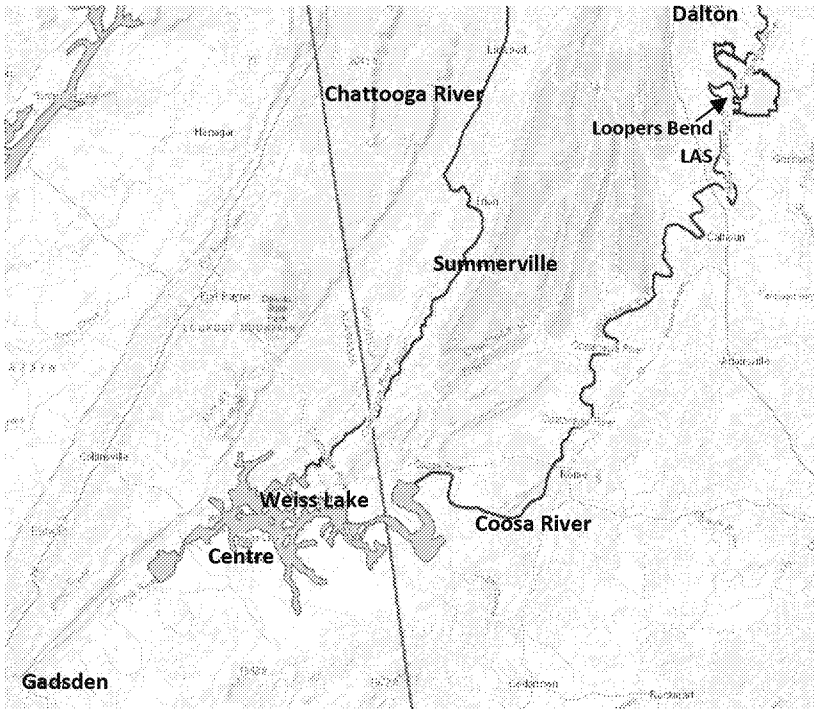
2012 and 2016 Coosa River Studies

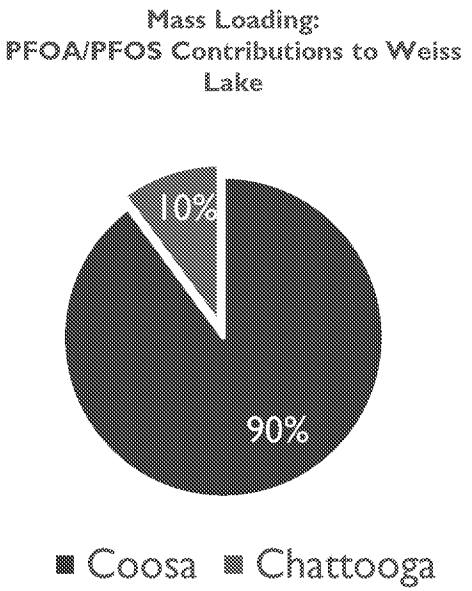


Based on the Coosa River studies (2012 and 2016), this map shows elevated PFAS concentrations near and downstream of the Loopers Bend.

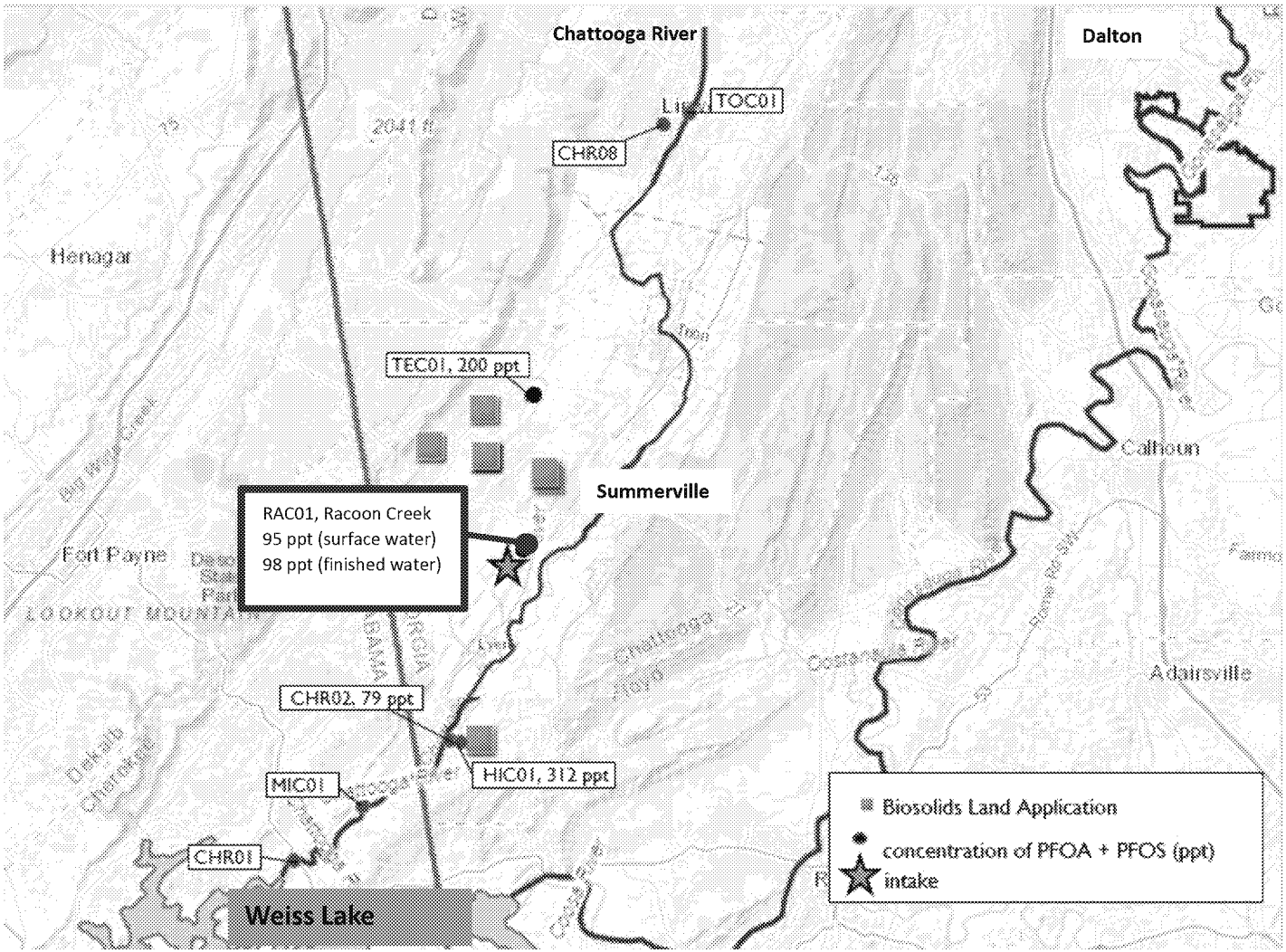
The map shows the majority of the PFAS concentrations above 70 ppt begin around the Loopers Bend and have an influence on the downstream Oostanaula and Coosa Rivers.

Note: Conasauga, **Oostanaula** and Coosa Rivers have the same color on each graphic for continuity.





In 2019, a study analyzed 17 inflowing tributaries to Weiss Lake. The results estimated that the Coosa River provides 90% of the PFOA and PFOS input to Weiss Lake, followed by a 10% contribution from the Chattooga River, and negligible input from the other 15 tributaries.



This map shows the location of seven samples collected near Biosolids Land Application sites. One of the samples, RAC01, was collected near the Racoon Creek intake for Summerville Public Works and Utilities with results of combined PFOA and PFOS at 95 ppt in surface water (November 2019) and 98 ppt in finished water (January 2020).